

REMARKS

This is in response to the Official Action currently outstanding with respect to the above-identified application.

Claims 1-19 were pending at the time of the issuance of the currently outstanding Official Action. By the foregoing Amendment Applicants have amended Claims 1, 4, 7, 9, 13 and 15. Claims 20-26 have been added. Claim 16 has been canceled as being redundant in view of the foregoing Amendments. Applicants respectfully submit that no new matter has been introduced into the present application by the foregoing Amendments. Accordingly, upon the entry of the foregoing amendment, the claims remaining under active prosecution in this application will be Claims 1-15 and 17-26. The text of the claims as amended, along with an appropriate indicator of the status of each, is set forth hereinabove as required by the Rules.

In the currently outstanding Official Action, the Examiner has:

1. Acknowledged Applicants' claim for foreign priority under 35 USC 119(a)-(d) or (f), and confirmed the receipt of the required copies of the priority documents by the United States Patent and Trademark Office;
2. Failed to provide Applicants with any indication concerning the acceptability of the drawings – **an indication concerning the acceptability of the drawings in response to this communication is respectfully requested;**

3. Provided Applicants with a copy of a Notice of References cited (Form PTO-892) along with copies of each of the newly cited references;
4. Provided Applicants with copies of the Forms PTO-1449 that accompanied their Information Disclosure Statements filed concurrently with this application and on 25 November 2003 in the above-identified application duly signed, dated and initialed by the Examiner to confirm his consideration of the art listed therein, but failed to provide Applicants with a copy of the Form PTO-1449 filed on 8 March 2004 duly signed, dated and initialed by the Examiner to confirm his consideration of the art listed therein – **appropriate acknowledgement of the Information Disclosure Statement filed in this application on 8 March 2004 in response to this communication is respectfully requested;**
5. Rejected Claims 1, 2, 7, 8, 10, 11 and 13-18 under 35 USC 103(a) as being unpatentable over the Shimazawa et al reference (US Patent 6,240,271) in view of the Funada et al reference (U.S. Patent No. 5,742,408);
6. Objected to claims 3-6, 9 and 12 as being dependent upon a rejected base claim, but indicated that those claims would be allowable if rewritten in independent form including all of the limitations of their respective base claims and any intervening claims; and
7. Failed to provide Applicants with any indication concerning the patentability of claim 19 as originally filed – **examination and an indication concerning the patentability of claim 19 in response to this communication is respectfully requested.**

No further comment is deemed necessary in these Remarks regarding items 1-4 and 7 above.

With respect to the Examiner's indication of allowable subject matter as summarized in item 6 above, Applicants at the present time (and without prejudice to their right to adopt the Examiner's suggestion at a later point in the present or a future prosecution, if appropriate) respectfully decline the Examiner's offer to allow claims 3-6, 9 and 12 if Applicant presented those claims in independent form including all of the limitations of their respective base claims and any intervening claims. As will appear more fully below, Applicants presently believe that the Examiner's rejections are either in error as stated or have been overcome by the foregoing Amendment. In either case, Applicants respectfully submit that claims 3-6, 9 and 12 after the entry of the foregoing Amendment will be dependent upon allowable base claims thereby removing the basis of the Examiner's objections thereto. Accordingly, a decision so holding and withdrawing the currently outstanding objection to claims 3-6, 9 and 12 in response to this communication is respectfully requested.

Minor amendments have been made to Claims 4 and 9 for the purpose of clarifying the phraseology thereof. In addition, a minor change has been made to Claim 10 to correct an inadvertent error in that claim's reference to the second instead of the first image processing unit. No new matter has been added by virtue of these amendments, and the entry thereof for purposes of clarity and accuracy in response to this communication is respectfully requested.

With respect to the Examiner's substantive rejections as briefly summarized in item 5 above, Applicants respectfully note that a claim is deemed to be obvious within the meaning of 35 USC 103(a) only when (1) there is a suggestion or motivation to modify the teachings of the cited references in the references themselves or in the knowledge generally available to those skilled in the art, (2) there is a reasonable expectation of the success of such a combination, and (3) the cited prior art teaches or suggests all of the claimed limitations, it being assumed that the teaching or suggestion of the combination and the reasonable expectation of success are not derived from the applicants' specification.

Applicants respectfully submit that the currently rejected claims, i.e., claims 1, 2, 7, 8, 10, 11 and 13-18, at least as hereinabove amended, clearly define over the Shimazawa reference taken in view of the Funada reference in a manner that precludes the establishment of the unpatentability thereof under the above-stated standards for the application of 35 USC 103(a). In support of this position, Applicants respectfully submit that unlike the cited references the present invention makes it possible not only to add additional information to a monochrome image, but also to do so without slowing the process of completed image output in comparison to the speed with which a solely monochrome image can be produced.

In the latter regard, therefore, it will be recognized that it is an object of the present invention to provide a compact and inexpensive color image forming apparatus that forms a monochrome image at a fast printing rate. Further, that color image forming apparatus is to maintain its fast monochrome image printing rate when it (1) produces a composite image by superimposing a particular pattern on a part of the monochrome image, or (2) superimposes a trace pattern of identification information for identifying a particular device onto the monochrome image.

Hence, the color image forming apparatus of the present invention is so arranged that the second image processing unit (which is another image processing unit than the first image processing unit wherein one of the plurality of developing devices contained therein withholds black toner) forms additional information that is to be combined with the monochrome image by an additional information composite means.

Moreover, in the present invention when a composite image is formed by combining a chief monochrome image with the additional information in a color other than black (realizing, of course, that there can be a case in which the additional information is combined with a color image as well as a case in which the additional information is not combined with a monochrome image), the first image processing apparatus forms the chief monochrome image, whereas the second image processing unit forms the image of the additional information.

With this arrangement, **it is possible to form the chief monochrome image (one of the original images) and the image of the additional information simultaneously. Therefore, the problem of extending the required printing time occasioned by the necessity of forming the image of the additional information can be solved.** In other words, a composite of a monochrome image with a color image of additional information other than black can be formed in a period of time as short as the time required to form a monochrome image that is not combined with the additional information (see the first, fourth and fifth paragraphs of the present specification).

More specifically, in the present invention, the output of the second image processing unit has to be delayed relative to that of the first image processor such that the completed image of the additional information is superimposed in registration with and upon the chief monochrome image on the image receiving medium passing through the image forming device. This is not the same thing as sequentially forming the second image subsequent to the formation of the first image in a manner that leads to a slowing of the passage of the receiving medium through the image forming device relative to the speed achievable when only a monochrome image is being formed.

It also is to be noted that the additional information of the present invention may be, for example, (i) a **particular pattern** exhibiting a nature of a document or the like, (ii) a **trace pattern** exhibiting identification information for identifying a device, or (iii) a **pattern image** which is electronic information in the form of bar codes (the electronic information representing a character, an image or a voice) – See, ninth paragraph of the Summary of the Invention of the present specification).

In addition, with reference to Fig. 2, it will be recognized that the present invention is arranged such that C (cyanogens) data and/or BK (Black) data of the original image are/is transmitted to the first image processing unit via the exposing means LSU 16 of the first system.

The first image processing unit forms the original image (including the case of the monochrome image). The M (magenta) data and Y (yellow) data of the original image and/or the data of the additional information (from 48a and 48b) is/are transmitted to the second image processing unit via the exposing means LSU 15 of the second system such that the second image processing unit form(s) the original image and/or the image of the additional information. When the chief monochrome image is combined with the image of the additional information of a color other than black, the first image processing unit forms the chief monochrome image, whereas the second image processing unit forms the image of the additional information.

The Shimazawa et al reference, on the other hand, discloses first and second image processing units, one of which being provided with a developing device withholding a black toner (See, column 15, lines 29-31 and lines 52-57). According to Figures 4 to 6, **data M and Bk of a document** are transmitted to a first image formation section via exposing device 66, and **the data Y and C of the document** are transmitted to the second image formation section via the exposure device 65. **However**, unlike the present invention, the Shimazawa et al reference does not disclose, teach or suggest that **the data of the additional information** is transmitted via the exposing device 65 to the second image forming section (which is another image forming device than the first image forming device provided with black toner).

The Examiner has conceded in the currently outstanding Official Action that the foregoing characterization of the Shimazawa reference is accurate. Specifically, at page 4, line 1-3, of the currently outstanding Official Action the Examiner states:

Shimazawa et al fails to teach of additional information composite means for producing a composite image by combining a chief monochrome image with additional information of the second image formation means.

Also, at page 11, lines 7-11, the Examiner states:

Shimazawa et al fails to teach of additional information memory, connected to said second image data line serving as said second system, for storing additional image data which forms an image different from said original image and will be combined with said image data sent to said image data line serving as said second system to produce a composite image.

In an attempt to overcome these deficiencies of the Shimazawa et al reference, the Examiner relies upon the Funada et al reference. The Funada et al reference has an object to provide an image forming device having the function of adding a particular pattern to a reproduction image (see, column 1, lines 43-45). Funada et al also describe that the input image read is subjected to a determination step wherein a determination is carried out such that prior to the formation of the image for reproduction (i) if the read image is a chromatic image (color image), a pattern is added to the read image, but (ii) if the read image is achromatic (a black-and-white, monochromatic image), no pattern is added.

However, the Funada et al reference while disclosing that a pattern is added to a color image, does not disclose, teach or suggest the feature of the present invention that “the second image processing unit, which is another image processing unit than the first image processing unit wherein one of said plurality of developing devices withholds black toner, forms the image of the additional information, which is to be combined with the monochrome image by the additional image composite means”. Rather, the Funada et al reference is concerned with the input of information, the analysis of the input information, the modification of the input information to add a pattern thereto in certain situations and the output of the resultant information (i.e., either the original input information or the original input information with an added pattern).

Still further, neither of the cited references relied upon by the Examiner discloses, teaches or suggests either (i) the arrangement recited in the above amended claims 1, 7 and 15 that “**said chief monochrome (original) image and said image of said additional information being formed simultaneously when said chief monochrome image is to be combined with the image of the additional information in a color other than black to produce a composite image**”, or (ii) the effect that “it is possible to form a composite image, in which the monochrome image is combined with the image of the additional information of the color other than black, in a time period required for forming the monochrome image with which the image of the additional information is not combined”.

As noted above, the Examiner has admitted the foregoing concerning the Shimazawa et al reference. In addition, with respect to the Funada et al reference, it is unambiguously clear that the output image formed is the resultant image determined by internal processing according to the nature of the originally input information, not the original image formed on one set of photosensitive bodies in one image processing unit and additional information simultaneously formed on the photosensitive bodies of a second image processing unit for subsequent combination into a composite image.

Accordingly, even if the references were to be combined in the manner advocated by the Examiner, the arrangement and associated effects provided by amended claims 1, 7 and 15 of this application would not be disclosed, taught or suggested to a person of ordinary skill in the art as of the time that the present invention was made in the manner required to support a *prima facie* case supporting the Examiner's currently outstanding rejections under 35 USC 103(a).

Applicants respectfully submit that the foregoing Amendments and related discussion clarify and distinctly indicate features of the present invention that were inherent in the claims as filed which are not disclosed, taught or suggested by the references cited and applied by the Examiner in this application. Therefore, for each and all of the foregoing reasons and in light of the foregoing Amendment, Applicants respectfully submit that the bases for the Examiner's rejections do not appropriately apply to the claims of this application, and that this application now is in condition for allowance. A decision so holding and allowing Claims 1-15 and 17-26 as hereinabove amended in response to this communication, therefore, is respectfully requested.

Applicants also believe that additional fees beyond those submitted herewith are not required in connection with the consideration of this response to the currently outstanding Official Action. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, you are hereby authorized and requested to charge and/or credit Deposit Account No. **04-1105**, as necessary, for the correct payment of all fees which may be due in connection with the filing and consideration of this communication.

Respectfully submitted,

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